

THE ASSIST

June 1999

Issue No. 14

**** Serving the RAST Fleet ****

Reliability Centered Maintenance

Reducing Maintenance and Improving Equipment Readiness by Ensuring Planned Maintenance Meets Actual System Needs

In an effort to reduce the total operating cost of RAST equipment, NAVAIRSYSCOM PMA-251 and the Naval Air Warfare Center, Aircraft Division, Lakehurst, New Jersey (NAWCADLKE), have instituted Reliability Centered Maintenance (RCM).

RCM is a process used to establish new preventive maintenance schedules while ensuring that the equipment continues to fulfill its mission safely with no degradation in readiness.

RCM was developed by two gentlemen from United Airlines in the early 1970s and has been employed by the U.S. and foreign governments and commercial industry for nearly three decades. In fact, the FAA mandates that the preventive maintenance schedules for all commercial aircraft are derived via RCM.

There are several variations of the RCM process available which typically involve only an RCM engineer. However, for RAST a modern version of RCM has been developed. It takes approximately six weeks for two groups of RAST technicians, ASIRs, In-service engineers, and Depot representatives to complete a RAST-RCM analysis.

RCM has many benefits, but most importantly, **it eliminates redundant preventive maintenance thereby reducing the amount of scheduled maintenance** that will be required for RAST. Additionally, the use of consumables and HAZMAT disposal is reduced.

Other benefits have been derived from the RCM process such as suggestions for specific redesigns to the equipment,

improvements to the training curriculum, technical publication changes, and new tool designs. Some of these recommendations are highlighted in this edition of "THE ASSIST". Look for more in future editions. Also, the revised MRC Decks will be out in October 1999!

If you have any questions or comments about RCM, please feel free to contact me.

Nancy Regan,
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USS Vella Gulf (CG-72)

Internet Access !!

You can view issues no. 1 through 14 simply by logging on to: **www.lakehurst.navy.mil/rast** This is recommended reading for all RAST techs. All of the maintenance tips and general information in the back issues

inside...

SEAL THAT THROUGH!.....	page 2
POINTS OF CON- TACT.....	page 2
RSD MAINTENANCE.....	page 3
PMS TIP OF THE QUAR- TER.....	page 4

THE ASSIST - Serving the RAST Fleet

SEAL THAT TROUGH!

During the time of ship's availability, we are constantly finding excessive industrial debris in the RAST troughs like clumps of nonskid, shot blast BBs, and duct tape. During inspection, the contractor is usually long gone and leaves the burden of cleaning the trough to the RAST Tech. This obviously wastes valuable time that we would rather spend getting the inspection performed and providing any technical assistance you need.

At any rate, you should maintain trough cleanliness all the time and not just for certification purposes but for two main reasons.

1. FOD in the trough is one of the main causes of RSD electric cable clamp/gutter failure.
2. Debris in the trough is carried into the machinery room on the traverse cables. This will cause wear on the cables, sheaves, and traverse drum.

RAST Technicians should install the slot seal (P/N 316322-1, NSN 5330-00-597-9254) whenever possible. This greatly reduces the amount of debris that can get into the trough.



USS Kaffman (FFG-59)

As usual, a little quality assurance up front will save time and money later. Lastly, PMS 4926 U-1, changed to MIP group 5882 U-1, requires you to do this inspection after flight deck resurfacing.

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A WORD FROM THE RAST FLEET LIAISON

It was mentioned during the RCM2 analysis that there is still some confusion on how to properly precharge the RSD accumulator. This has been addressed in the Tip of the Quarter in the first and seventh issues of "THE ASSIST". So please refer to either one for the details. You can read all previous issues on the Internet at www.lakehurst.navy.mil/rast/. If you do not have access to the web, you may contact me and I will be glad to send you a copy.

Hear are some additional tips pertaining to RSD maintenance. The following are from the RCM2 analysis:

1. When charging the accumulator, make sure charging nut is fully opened otherwise there is no nitrogen delivered.

2. Be sure not to over-tighten the nut on the charging valve after charging because this causes damage to the valve seat. The obvious result will be loss of nitrogen charge and beam movement. Gage must be replaced and the system re-charged.

3. If nitrogen is charged with Marotta valve in neutral position this will result in insufficient nitrogen volume because the piston is not fully extended to the oil end of the accumulator. This may cause inability to achieve a full cycle of the beams.

4. It is common to order an accumulator gage, without ordering the seal. As a result, ship force manufactures a seal that may leak. To make it easier for you, I have included the proper part numbers for the accumulator charging gage and seals.

(A.) Gage, P/N. 11060-2, NSN 6685-00-703-6811, cage #26044.

(B.) Packing, preformed, P/N. MS28778-4, NSN 5331-00-805-2966, cage # 96906.

(C.) Retainer, packing backup, P/N. MS28773-04, NSN 5330-00-246-6403, cage # 07128. Make sure you replace these seals anytime you break open the line. You must also be careful not to over-tighten the line when reassembling to avoid damaging the seal.

5. Avoid using a wrench to manually activate Marotta valve during maintenance. Use only the manual actuator because you can over rotate the shaft and break the pin. This can present a safety issue if you need the manual back up during flight operations. (If lanyards are removed from the actuator, make sure the are readily available durring flight opps). Also, the spring may brake making it impossible to center the valve shaft. Fluid will leak internally which causes the pump to short cycle.

Ok folks, that is it for now. If you have a Tip of the Quarter, please send it in. I will be more than happy to publish it and at the same time you will be helping the rest of the RAST community.

Until next time, take care!

EN1 Rob Bachand



USS INGRAHAM FFG-61

"THE ASSIST" is an unclassified, quarterly publication issued by the RAST team of the Recovery Branch, SE/ALRE In-Service Engineering Division, Naval Air Warfare Center, Aircraft Division, Lakehurst, New Jersey.

The information herein is unofficial and is provided to assist the RAST community in the operation and maintenance of the RAST system.

LOOKING FOR A RELIEF AS RAST FLEET LIAISON

Unfortunately for me, my days as RAST Fleet Liaison are numbered. I have exactly one year before I have to return to sea duty. The time here has passed very quickly. I only wish my time at sea would pass by in the same way! The reason why I am mentioning this to you is because I would like to find a qualified, hard working individual interested in this type of duty. If you are, you must contact me ASAP so we can work together with the detailer to get you here prior to my transfer so that I am able to give you a good turn- over. If you should decide to peruse this type of duty, you must be E-5 or above and hold the RAST NEC. I am sure you will like the duty up here in central New Jersey. I have found it to be in the top ten as far as shore duty is concerned. Give me a call and I will give you the details including great liberty in the Garden State.

Well I must close for now. I'm looking forward to your phone call.

EN1 Rob Bachand

PMS Tip of the Quarter

Some maintenance tasks required by the MRCs require involved procedures. In this section of this and future newsletters, we will highlight such tasks and provide a detailed explanation of how to get them done correctly and safely. Refer to the following steps when verifying/adjusting RA system pressure (4200 +0 -200 psi) (MRC 5882 S-2): (OMI para. 6-9A. steps (5) - (27):

1. Install a cable clamp on the RA drum and the HPRV Test Block, P/N 521267-1. Rotate the drum in the reel-in direction so that the cable clamp contacts the block preventing RA drum rotation.
2. Apply RA drum brake. Start RAST system iaw step 6.5A of the OMI.
3. On the TCP, position the following:
 - A. MASTER switch to ON.
 - B. SOLENOID SELECT switch to RA DRUM BRAKE.
 - C. RA DRUM SPEED switch to 2.
 - D. RA DRUM SELECT switch to REEL-IN.

**WARNING: If the RA SYSTEM pressure exceeds 4,400 psi,
release the PRESSURE SELECT switch immediately!**

Failure of the HPRV will result in excessive pressure and an unsafe condition.

4. Position the PRESSURE SELECT switch located on the TCP to the BY-PASS CLOSE position and hold. Depress the RA SYSTEM PRESSURE button and slowly open the RA SYSTEM PRESSURE valve located on the HTP.

**NOTE: Do not hold the PRESSURE SELECT switch in the By-pass VALVE CLOSE position
for more than ten seconds at a time.**

5. Allow the pressure to stabilize at maximum. Read and record the RA SYSTEM PRESSURE.
The expected result is 4,200 +0/ - 200 PSI.
6. Slowly close the RA SYSTEM PRESSURE valve and release the RA SYSTEM PRESSURE button.
7. Return TCP switches to normal position and shut system down.
8. If adjustment is required refer to OMI para. 6-9A. steps (16)- (27)

Submitted by,
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Page 4

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